1 WE CLAIM:

2   1.   A server that provides geographic data for client computing platforms

3 comprising:

4   a repository for geographic data,

5   wherein the repository contains data that represent geographic features located in

6 a serviced geographic region, wherein the geographic region is divided into a plurality of

7 pre-determined smaller sub-areas,

8   wherein the data contained in the repository are organized into a plurality of

9 uniform-sized parcels of data,

10   wherein each of said uniform-sized parcels includes data that represent the

11 geographic features located in a separate respective one of the plurality of smaller

12 sub-areas; and

13   a data downloading application run on said server that downloads one or more of

14 said whole uniform-sized parcels of data from said repository to said client computing

15 platforms, as needed, for use therein.

16

17   2.   The invention of Claim 1 further comprising:

18   a working geographic database associated with said server and used by a

19 navigation application on said server to perform a navigation-related function.

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21   3.   The invention of Claim 2 wherein the navigation related function is route

22 calculation.

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24   4.   The invention of Claim 1 further comprising:

25   a finder application associated with said server and adapted to find information

26 about businesses based upon specified criteria.

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28   5.   The invention of Claim 4 wherein the specified criteria include location-

29 based criteria.

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1   6.   The invention of Claim 4 wherein the finder application also finds

2 information about persons.

3

4   7.   The invention of Claim 1 further comprising:

5   a subscriber services application associated with said server and adapted to

6 provide subscriber services to end users who access the said server.

7

8   8.   The invention of Claim 1 wherein the repository includes a plurality of

9 collections of geographic data, wherein each collection represents the entire geographic

10 region, wherein each collection is organized into a plurality of parcels of a uniform size,

11 and wherein the parcels in one of said plurality of collections has a different uniform size

12 than the parcels in another of said plurality of collections.

13

14   9.   The invention of Claim 1 wherein the repository includes a plurality of

15 collections of geographic data, wherein each collection represents the entire geographic

16 region, wherein each collection is organized into a plurality of parcels of a uniform size,

17 and wherein the parcels in one of said plurality of collections contains data that represents

18 different attributes of the represented geographic features than the parcels in another of

19 said plurality of collections.

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21   10   The invention of Claim 1 wherein the server also includes a repository of

22 downloadable applications for downloading and running on client computing platforms.

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24   11.   The invention of Claim 10 wherein the downloadable applications are

25 applets.

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27   12.   The invention of Claim 10 wherein the downloadable applications are

28 plug-ins.

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30   13.   The invention of Claim 10 wherein the downloadable applications include

31 a memory manager application.

1   14.   The invention of Claim 10 wherein the downloadable applications include

2   updates for applications already installed on client computing platforms.

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4   15.   The invention of Claim 10 wherein the downloadable applications are

5   applets that run in a browser installed on a client computing platform.

6

7   16.   A method of operation for a navigation system comprising:

8   on a server, receiving a request for geographic data from a client computing

9   platform;

10   determining which pre-computed parcels of geographic data stored with said

11   server to send to the client computing platform to respond to said request, wherein each

12   of the pre-computed parcels of geographic data in a collection thereof corresponds to a

13   separate one of a plurality of geographic sub-areas into which a geographic region is

14   divided; and

15   sending the pre-computed parcels of geographic data that had been determined to

16   the client computing platform.

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18   17.   The method of Claim 16 further comprising:

19   on said server, determining a route between an origin and a destination.

20

21   18.   The method of Claim 17 further comprising:

22   sending data that indicates the route to the client computing platform.

23

24   19.   The method of Claim 17 wherein the step of determining comprises:

25   identifying which of the geographic sub-areas are located along the route; and

26   determining to send the pre-computed parcels of geographic data that represent .

27   the geographic sub-areas identified as being located along the route.

28

29   20.   The method of Claim 16 further comprising:

30   selecting the collection from a plurality of different collections of pre-computed

31   data parcels.

1

2   21.   The method of Claim 20 further comprising:

3   receiving from the client computing platform an indication of which of said

4 plurality of different collections to send data from.

5

6   22.   The method of Claim 20 wherein the step of selecting is preceded by

7 accessing a subscriber database that indicates which collection to send data from.

8

9   23.   An architecture for a navigation system comprising:

10   a server;

11   client computing platforms;

12   a network over which said client computing platforms and said server can

13 communicate with each other;

14   a geographic database associated with said server;

15   a geographic data repository associated with said server and containing

16 pre-computed parcels of geographic data, wherein each parcel in a collection represents

17 geographic features located in a separate one of a plurality of geographic sub-areas into

18 which a geographic region is divided; and

19   a geographic data providing application on the server that determines which of

20 said pre-computed parcels of geographic data to send to each of said client computing

21 platforms in response to requests therefrom for geographic data.

22

23   24.   The invention of Claim 23 wherein the pre-computed parcels of

24 geographic data in the collection have a uniform data size.

25

26   25.   The invention of Claim 23 wherein the collection is one of a plurality of

27 collections of geographic data, each of which is organized into a plurality of

28 pre-computed parcels, and wherein the plurality of pre-computed parcels in one of said

29 plurality of collections has a different uniform data size than the plurality of

30 pre-computed parcels in another of said collections.

31

1   26.   A method of managing memory resources in a client computing platform

2   comprising the steps of:

3   receiving uniform-sized predetermined parcels of data from a server,

4   wherein each uniform-sized predetermined parcel of data contains data that

5   represent geographic features located within a separate respective one of a plurality of

6   sub-areas into which a geographic region is divided; and

7   storing said uniform-sized predetermined parcels of data in corresponding-sized

8   portions of a cache memory in said client computing platform.

9

10   27.   The method of Claim 26 further comprising:

11   using said uniform-sized predetermined parcels of data to display a map on said

12   client computing platform.

13

14   28.   The method of Claim 27 wherein said map is a strip map.

15

16   29.   The method of Claim 27 further comprising:

17   showing a calculated route on said map.

18

19   30.   The method of Claim 26 wherein the sub-areas corresponding to said

20   uniform-sized predetermined parcels of data received by said client computing platform

21   overlap a portion of a calculated route.

22

23   31.   The method of Claim 30 wherein the route is calculated on the server.

24

25   32.   The method of Claim 26 wherein the uniform-sized predetermined parcels

26   of data received by said client computing platform include separate types of data

27   contained in separate uniform-sized predetermined parcels of data.

28

29   33.   The method of Claim 26 wherein the uniform-sized predetermined parcels

30   of data received by said client computing platform include separate types of data

31   contained in each uniform-sized predetermined parcels of data.

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2   34.   The method of Claim 26 further comprising:

3   prior to receiving the uniform-sized predetermined parcels of data from the server,

4   on the client computing platform, identifying types of data needed to support functions

5   provided by the client computing platform.

6

7   35.   The method of Claim 26 further comprising:

8   using the data contained in said uniform-sized predetermined parcels of data to

9   provide route guidance.

10

11   36.   The method of Claim 26 further comprising:

12   using the data contained in said uniform-sized predetermined parcels of data to

13   explicate a calculated route.

14

15   37.   The method of Claim 26 wherein the sub-areas corresponding to said

16   uniform-sized predetermined parcels of data received by said client computing platform

17   overlap an initial portion of a calculated route; and

18   as the client computing platform travels along the calculated route, obtaining

19   additional uniform-sized predetermined parcels of data corresponding to sub-areas that

20   overlap subsequent portions of said calculated route.

21

22   38.   The method of Claim 26 further comprising:

23   determining a position of the client computing platform relative to roads

24   represented by data contained in said uniform-sized predetermined parcels of data

25   received by said client computing platform.

26

27   39.   The method of Claim 26 further comprising:

28   determining whether said client computing platform has departed from a

29   calculated route.

30

1   40.   The method of Claim 39 further comprising:

2   calculating a way back to said calculated route using data contained in said

3   uniform-sized predetermined parcels of data received by said client computing platform.

4

5   41.   The method of Claim 26 further comprising:

6   downloading an application from the server to be run on said client computing

7   platform.

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9   42.   The method of Claim 41 wherein the application downloaded from the

10   server is an applet.

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12   43.   The method of Claim 41 wherein the application downloaded from the

13   server is a plug-in.

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15   44.   The method of Claim 41 wherein the application downloaded from the

16   server runs in a browser on the client computing platform.

17

18   45.   The method of Claim 26 further comprising:

19   receiving data from the server that indicates a route between an origin and

20   destination, wherein the route was calculated on the server.

21

22   46.   The method of Claim 45 further comprising:

23   from the client computing platform, specifying the origin and destination to the

24   server prior to receiving data from the server that indicates the route.

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